SPECIAL GROUNDING NOTE:

FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND THE FOLLOWING (SUPPLEMENTS):

- ANTI–THEFT UPDATE TO SPRINT GROUNDING DATED 08.24.12.
- SPRINT ENGINEERING LETTER EL–0504 DATED 04.20.12

TOWER TOP INTERIOR TYPICAL POWER & GROUNDING ONE LINE DIAGRAM

SCALE: N.T.S.

1 / E–1

REV C

EXISTING PANEL SCHEDULE

UND BAR CONNECTION DETAIL

2 / E–1

LEGEND

1– COPPER TINNED GROUND BAR, 1/4"x4"x20", OR OTHER LENGTH AS REQUIRED, HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2– INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061–4 OR EQUAL
3– 5/8" LOCKWASHERS OR EQUAL
4– WALL MOUNTING BRACKETS, NEWTON INSTRUMENT CO. CAT NO. A–6056 OR EQUAL
5– 5/8– 11x1" H.H.C.S.BOLTS

NOTES:

1. ALL BOLTS, NUTS, WASHERS AND LOCK WASHERS SHALL BE 18–8 STAINLESS STEEL.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI–THEFT HARDWARE.

TYPICAL GROUND BAR DETAIL

SCALE: N.T.S.

3 / E–1

NOTES:

1. CONTRACTOR TO UTILIZE KOPR–SHIELD (THOMAS & BETTS) ON ALL LUG CONNECTIONS.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI–THEFT HARDWARE.

TYPICAL INSTALLATION OF GROUND WIRE TO GROUND BAR DETAIL

SCALE: N.T.S.

4 / E–1

ELECTRICAL NOTES

1) ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

2) THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH LOCAL UTILITY COMPANIES AND SPRINT CONSTRUCTION MANAGER.

3) ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.

4) ALL METAL CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS.

5) GENERAL CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.

6) ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.

7) THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIALS DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

8) GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

9) ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

10) BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.

11) ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.

12) RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

13) RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.

14) ABOVE GROUND PORTION OF CONDUIT BETWEEN BTS AND PROJECT OWNER'S CELL SITE PPC SHALL BE RIGID CONDUIT.

15) FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND THE FOLLOWING SUPPLEMENTS

ANTI–THEFT UPDATE TO SPRINT GROUNDING DATED 08.24.12

SPRINT ENGINEERING LETTER EL–0504 DATED 04.20.12

GROUNDING NOTES

1) ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.

2) ALL GROUND WIRE SHALL BE BARE COPPER #2 AWG UNLESS OTHERWISE NOTED.

3) ALL GROUND WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.

4) EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER GROUND BAR (MGB) WITH #2 AWG INSULATED STRANDED COPPER WIRE. EQUIPMENT CABINETS SHALL EACH HAVE (2) CONNECTIONS.

5) PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED AGB (TYP.)

6) ANTENNA GROUND KITS SHALL BE FURNISHED BY SPRINT AND INSTALLED BY ELECTRICAL CONTRACTOR.

7) COORDINATE NEW SPRINT GROUND SYSTEM WITH EXISTING SITE GROUND SYSTEM.

8) GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH PROJECT OWNER'S BTS SITE GROUNDING STANDARDS.

9) GROUND HYBRIFLEX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS HYBRIFLEX CABLE GROUNDING KITS.

10) ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

11) ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.

12) CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

13) APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.

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STATE OF MAINE
DANIEL P. HAMM
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
3	05/20/13	FOR CONSTRUCTION	BR
2	05/03/13	FOR CONSTRUCTION	SR
1	04/08/13	ISSUED FOR REVIEW	SF

SITE NUMBER:
NM03XC067

SITE NAME:
ONE CITY CENTER

SITE ADDRESS:
ONE CITY CENTER
PORTLAND, ME 04101

SHEET TITLE
TYPICAL POWER & GROUNDING ONE LINE DIAGRAM

SHEET NUMBER
E–1

CITY OF PORTLAND, MAINE
RESURGAM

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 07/26/13